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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,932	03/02/2004	Norihiko Tanaka	FY.51036US1A	3245
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KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER COOLMAN, VAUGHN	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,932

Applicant(s)

TANAKA ET AL.

Examiner

Vaughn T. Coolman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03022004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “82” has been used to designate both the top end of the vehicle seat and the bottom surface of the vehicle seat in FIG 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 263 – “output shafts” – paragraph 0087, line 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities: The reference character 262 is used to designate two different elements of the claimed invention. In paragraph 0086, lines 1 and 2, reference character 262 is used to designate "a front differential input shaft". In the same paragraph, line 5, the reference character 262 is used again to designate "a pair of output shafts".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 1, 2, 3, 4, 5, 13, 14, 15, 16, 17, 20, 21, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leipert (U.S. Patent No. 1,852,464) in view of Fukamachi et al (U.S. Patent No. 6,405,823).

In re claims 1 and 2, Leipert discloses a vehicle capable of being used off-road that includes: a frame (FIGS 3, 4; items 12), a plurality of wheels (shown in FIG 4) supporting the frame, at least two seat assemblies (FIG 4, items 32, 34) disposed side by side on the frame. In FIG 5, Leipert shows the seat assemblies being spaced apart from each other to define a space therebetween. Leipert also shows the engine being disposed generally adjacent to the seat assemblies in FIGS 3-5. However, Leipert does not disclose his engine (FIG 5, item 13) for

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powering the wheels as being an internal combustion engine. Fukamachi teaches a water-cooled internal combustion engine (Column 3, lines 62-63) for a vehicle wherein the engine (FIG 2, item 4) includes an air intake port (FIG 2, item 12a), the air intake port being in direct communication with a combustion chamber (FIG 2, item 12) or cylinder head. Fukamachi also shows an air intake system (FIG 2, item 20), a carburetor, delivering air to the intake port. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle shown by Leipert, with the internal combustion engine as taught by Fukamachi, since such a modification would have the advantage of being able to swing the engine vertically in order to undertake major repairs while seated in the vehicle. It is obvious that when the engine of Fukamachi is combined with Leipert's vehicle that at least a portion of the air intake system will be extending through the space between the vehicle seats.

In re claims 3 and 4, by inserting the engine of Fukamachi into the space of Leipert's vehicle and keeping the front to rear orientation as shown by Fukamachi in FIG 1, the engine obviously has a portion, the cylinder head and cover, positioned generally at a rear end of the space. The portion includes the intake port (12a). Fukamachi also shows the intake system extending generally forwardly from the intake port. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert in view of Fukamachi, with the engine orientation and component layout further taught by Fukamachi, since such a modification would provide two advantages at the same time. The first advantage is the air intake system being disposed such that it would receive fresh, cool air from the grille area shown in FIG 2, without the air first being heated by passing over any

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other engine components. The disposition of the cylinder head to the rear of the space has the advantage of being closer to the radiator of Leipert (FIG 4, item 14) in order to cool the engine.

In re claim 5, Fukamachi further shows the intake system including a carburetor (Column 4, line 36). It is extremely old and well known in the art that a carburetor includes a throttle body and the throttle body includes a throttle valve. It is obvious that the throttle body in the carburetor of Fukamachi is at least partially disposed within the space of Leipert. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a carburetor for an internal combustion engine in order to regulate the air and fuel mixture provided to the combustion chamber.

In re claim 13, Leipert further shows the seat assemblies defining a top surface (shown in FIGS 3, 4) and at least a portion of the engine (FIG 3, item 13) being disposed lower than the top surface (shown in FIGS 3, 5).

In re claims 14 and 15, Leipert further shows the seat assemblies defining a rear surface (shown in FIGS 3, 4) and at least a portion of the engine (FIG 3, item 13) being disposed forward of the rear surface (shown in FIGS 3, 4).

In re claims 16 and 17, Leipert in view of Fukamachi discloses all of the elements of the claimed invention as described above and Fukamachi further shows the engine (FIG 2, item 1) including an exhaust port (FIG 2, item 12b) communicating with the combustion chamber (FIG 2, item 12). He also shows the engine comprising a rear surface and the exhaust port opening through the rear surface. Furthermore, Fukamachi teaches an exhaust system for the engine, the exhaust system (not shown) extending rearward from the exhaust port that opens through the rear surface (Column 4, lines 39-40). It would have been obvious to one having ordinary skill in the

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art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi, with the exhaust port and system as taught by Fukamachi, since such a modification would have the advantage of directing hot exhaust gases rearward of the passenger compartment in order to maintain climate control therein. It would also be obvious for the exhaust system to include the exhaust pipe taught by Fukamachi in order to aid in the compliance of the vehicle with emissions laws wherever the vehicle is purchased and used.

In re claims 20-23, Leipert in view of Fukamachi discloses all of the elements of the claimed invention as described above including Fukamachi teaching a second surface on the engine that is positioned generally opposite to the first surface. In re claims 20 and 21, the first surface is described above as the front surface and the second surface is referred to as the rear surface. The elements of claims 22 and 23 were addressed in re claims 2-4 and 16-17, respectively.

Claims 6, 7, 8, 9, 10, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leipert (U.S. Patent No. 1,852,464) in view of Fukamachi et al (U.S. Patent No. 6,405,823) and further in view of Rioux et al (U.S. Patent No. 6,648,093).

In re claim 6, Leipert in view of Fukamachi discloses all of the elements of the claimed invention as described above except for: the intake system comprising an air intake duct disposed upstream relative to the throttle body, the intake duct generally extending forwardly from the throttle body, and a forward portion of the intake duct extending downwardly. However, Rioux teaches an air intake system for an off-road vehicle that includes all of these elements. Referring to FIG 22, Rioux shows an air intake duct (item 398) disposed upstream relative to the throttle

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body of Fukamachi, also shown in Rioux (item 344). Rioux also shows the intake duct generally extending forwardly from the throttle body, as item 398 is disposed at the front of the vehicle. In the direction of air travel, Rioux also shows a forward portion of the intake duct (398) extending downwardly. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vehicle shown by Leipert in view of Fukamachi, with the air intake ducting system as taught by Rioux, since such a modification would provide the advantage, according to Rioux, of eliminating the entry of mud or water splashed up from the wheels (Column 10, lines 47-48). This modification is particularly suited for the vehicle of Leipert, because he shows the air intake pathway to be open to the atmosphere, and therefore the adverse elements, from the bottom of the vehicle (FIG 4).

In re claim 7, Leipert in view of Fukamachi and Rioux discloses all of the elements of the claimed invention as described above and Leipert further shows the seat assemblies (FIGS 3-5) defining a top surface and a forward surface, and the intake ducting layout of Rioux is obviously capable of extending generally along the top and forward surfaces shown by Leipert. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi and Rioux, with the intake duct routing as taught by Rioux, since such a modification would position the ducting in a position at the top of the engine compartment, then route it underneath the front dash of Leipert (FIG 3, item 16) in order to avoid any electronics or climate control components located therein.

In re claim 8, Leipert in view of Fukamachi and Rioux discloses all of the elements of the claimed invention as described above and Rioux further shows the intake duct including an accumulator, shown in FIG 22 as the rear portion of item 400, disposed between the throttle body

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(FIG 22, item 344) and the balance of the intake duct (FIG 22, items 398, 399). The inner diameter of the accumulator of Rioux is shown as being greater than an inner diameter of the balance of the intake duct, as evidenced by the shoulder portion of item 400. Furthermore, the air box (item 401) shown in FIG 22 of Rioux can be considered as part of the accumulator as well, further increasing the inner diameter size relative to the balance of the intake duct. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi and Rioux, with the accumulator as taught by Rioux, since such a modification would provide a constant supply of air, by accumulating it in the expanded areas noted above during acceleration and travel, regardless of the adverse affect that the deceleration of the vehicle imparts on the fresh air intake rate at the front of the vehicle.

In re claims 9 and 10, Leipert in view of Fukamachi and Rioux discloses all of the elements of the claimed invention as described above and Leipert further shows a floorboard (FIG 4, items 33, 35, 39) extending at least forwardly from a base portion of the seat assemblies (shown in FIG 4). Leipert also shows the floorboard including an upward projection (shown in FIG S 3-5) that defines a tunnel. Rioux teaches both the intake duct further including a portion obviously capable of extending forwardly of the seat assemblies at a location generally below a portion (FIG 4, item 39) of the floorboard and the intake duct in that position extending within at least a portion of the tunnel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi and Rioux, with the intake duct routing as taught by Rioux, since such a modification

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would provide the advantage of protecting the intake duct from damage caused by debris, the floorboard area described above being positioned to block debris from certain entry angles.

In re claim 11, Leipert in view of Fukamachi and Rioux discloses all of the elements of the claimed invention as described above and Rioux further teaches the intake system including an air filter/cleaner (FIG 22, items 416, 417) that is connected (shown in FIG 22) to the intake duct. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi and Rioux, with the air cleaner as taught by Rioux, since such a modification would provide the advantage of filtering harmful particulates out of the intake air provided to the combustion chamber.

In re claim 12, Leipert in view of Fukamachi and Rioux discloses all of the elements of the claimed invention as described above and Leipert further shows his vehicle including a hood (FIGS 3-5, item 17) covering at least a forward portion of the frame (shown in FIG 4). Leipert does not show the air cleaner unit being disposed below the hood. However, Rioux teaches a position of the air cleaner unit that when combined with the engine of Fukamachi is obviously capable of being disposed below the hood. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi and Rioux, with the air cleaner unit positioning as taught by Rioux, since such a modification would provide the advantage of increased accessibility in order to change the air cleaner unit's filter element, a process well known in the art.

Claims 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leipert (U.S. Patent No. 1,852,464) in view of Fukamachi et al (U.S. Patent No. 6,405,823) and further in view of Matsuura et al (U.S. Patent No. 6,920,949).

In re claims 18 and 19, Leipert in view of Fukamachi discloses all of the elements of the claimed invention as described above except for a pair of front wheels and a pair of rear wheels supporting the frame or the wheels including a balloon tire. However, Matsuura teaches the use of balloon tires (Column 3, lines 58-62) for a both a pair of front wheels and a pair of rear wheels of an off-road vehicle (shown in FIGS 1, 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the vehicle shown by Leipert as modified by Fukamachi, with the tire type and configuration as taught by Matsuura, since such a modification would provide increased ride stability due to the wheel configuration, and increased shock absorption from the tires due to the low pressure, wide balloon tires.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Enokimoto (U.S. Patent No. 5,251,713) and Matsumoto et al (U.S. Patent No. 5,950,748) both disclose various elements of the claimed invention.

Nakamura et al (U.S. Patent No. 6,695,083) teaches an off-road vehicle with an air intake system including an air cleaner. The air cleaner is disposed below the hood of the vehicle.

Kitano et al (U.S. Patent No. 4,350,124) teaches the use of balloon tires with an off-road vehicle.

Kosuge (U.S. Patent No. 4,773,675) and Suhre (U.S. Patent No. 3,147,814) both teach the use of an internal combustion engine with an off-road vehicle and further show elements of the engine position in relation to the seat of the vehicle.

Akasaka (U.S. Patent No. 6,502,659) teaches an internal combustion engine with an air intake port on a front surface of the engine, and an exhaust port and exhaust system originating from a rear surface of the engine.

Hickey (U.S. Patent No. 3,709,314) teaches the use of an internal combustion engine with an off-road vehicle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vaughn T. Coolman whose telephone number is (571) 272-6014. The examiner can normally be reached on Monday thru Friday, 8am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

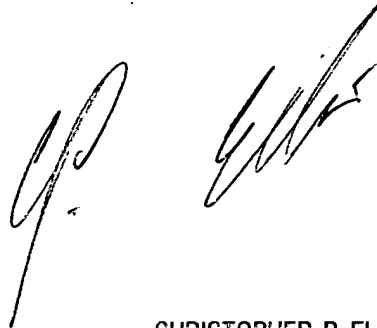
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